Developing with Jobs per Household equal to 1.6 Report FAC/FCA-055

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Introduction: The purpose of this report is to present an alternative Reston Metrorail Three-Station Corridor development plan that results in a balance between the number of new jobs and the number of new households.

Summary: The developer should be required to develop the residential components of the project(s) simultaneously or prior to building the commercial. The higher profits associated with commercial development will provide the incentive for building the full project. Residential development should maintain a ratio of 1.6[1] or fewer new jobs per new household. If all new development maintains this ratio, although some new infrastructure will be needed, no road enhancement will be needed to accommodate the new construction. Allowing for an average FAR that is twice the current value will provide sufficient gross floor area. Allowing for a residential FAR that is greater than commercial will provide the incentive for the developer to build the residential units. If these conditions are met, by 2050 the total rental income in the corridor will increase by more than a factor of two, as compared to today's rental income, and be more than 50% greater than if all new development meets the maximum allowable by right (i.e., as currently zoned).

With the exception that the jobs-per-household ratio was 2.5, for the past 20 years Arlington County followed this same strategy in the Rosslyn-Ballston corridor, which is frequently cited as a good example of planning and plan implementation.

If the ratio of jobs to households is allowed to exceed 1.6, the infrastructure must be enhanced. The 1.6 ratio results in an insignificant impact on the existing infrastructure. If the developers want to exceed this value, they should pay for the infrastructure enhancements. The Comprehensive Plan should not be changed until the design, cost, and funding of the infrastructure are defined.

Discussion: We have chosen as our baseline the GMU Intermediate forecast for 2050[2]. The densities are approximately two times those of GMU 2030. GMU 2050 projects that there will be a demand for 51,918 more jobs in the Reston Metrorail Corridor, above the 82,482 jobs in 2010 (Exhibit 1)[3]. GMU 2050 also projects that the additional housing demand will be 18,240 units. John McClain stated at his Task Force presentation that his past projections for jobs were extremely accurate but that his past projections for households had been low, because he did not expect people to be willing to commute from afar. GMU 2050 projects that, if the housing and jobs demands are exactly met, the number of commuters into the corridor will increase from the present 73,106 to 95,840, a 31% increase, so that the Reston infrastructure would need to be enhanced. Buses and bikers are proposed to offset this increase in automobile traffic, but no analysis has been performed of the mode shares.

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[1] The value of 1.6 is based on Fairfax County experience and, apparently, national experience on the number of workers per multifamily residence. If the ratio is smaller than 1.6, more people will be commuting out of the corridor. If the ratio is greater than 1.6, more people will be commuting into the corridor. Because there is currently so many more jobs than households, the ratio for new construction could be on the order of 0.5 for the sum of existing and new to be below 1.6. This idealization, which is based on each new resident worker working at one of the new jobs, will surely not be realized, although people taking transit out of the corridor will be at least partially offset by people taking transit into the corridor. The 1.6 value is important primarily to minimize rush-hour traffic. At other hours, the ratio is of much less importance.

[2] Lisa Sturtevant and John McClain: Forecasts for the Reston/Dulles Rail Corridor and Route 28 Corridor 2010 to 2050. George Mason University Center for Regional Analysis (July 26, 2010)

[3] Jobs and household values for existing, zoning-approved, and planned (Comp Plan) were taken from Faheem Darab's October 2010 presentation to the Reston Task Force.

Although some Restonians have the (strong) opinion that the jobs-to-household ratio must be the same for each station, we consider all three stations as a unit because people can ride the Metrorail between stations to provide the equalization. The objecting Restonians could call for the application of these same strategies for each station.

Rental rates are approximately $40 per square foot per year for commercial units[4]. If we assume that each job required 330 sq. ft., as do current jobs in the Reston Town Center, the rental income for each additional job will be $13,200. For a residence, rental rates are approximately $24 per square foot per year[5]. If we assume that each rental unit has 1000 sq. ft., as do current rental units in the Reston Town Center, the rental income from each household will be $24,000. The computed rental income at the end of development is shown in the last line of Exhibit 1 (in millions of dollars per year). We have computed the gross floor areas using the current Town Center values of 1000 sq. ft. per household and 330 sq. ft. per job.

A key benchmark is the rental income for "Zoning Approved," because this is the expected income if new construction provides the maximum allowable "by right" values. The current zoning permits this much construction. Notice that, if construction were permitted according to the current Comprehensive Plan or any one of the three GMU forecasts, the rental income would be greater than the "by right" value.

TOTALS	Existing	Zoning Approved	Planned	GMU 2030	GMU 2040	GMU 2050
hh	5,860	8,674	9,797	13,200	18,600	24,100
jobs	82,482	109,124	129,423	107,400	122,600	134,400
jobs/hh	14.1	12.6	13.2	8.1	6.6	5.6
GFA jobs/GFA hh	4.6	4.2	4.4	2.7	2.2	1.8
Avg FAR	0.45	0.61	0.72	0.66	0.81	0.93
Commuters	73,106	95,245	113,748	86,280	92,840	95,840
Rental income	1,229	1,649	1,944	1,734	2,065	2,352

Exhibit 1: Current and Future Jobs and Households along the Reston Metrorail Corridor

All of the cases listed in Exhibit 1 require enhancement of the transportation systems. Enhancing the transportation systems incurs high costs and high risk. For example, a ubiquitous bus system has been proposed so that traffic does not increase; however, such a bus system is expensive and carries with it the risk that too few will use it.

As an alternative to the projections of Exhibit 1, we recommend that the Arlington County plan be used, except that all new development have the ratio of jobs to households equal 1.6[6] (Exhibit 2). No changes will be required

	Zoning Approved	Planned	GMU 2030	GMU 2040	GMU 2050	2030 Comm Demand	2050 Comm Demand	2050 Res Demand
Incremental								
hh	2,814	3,937	7,340	12,740	18,240	15,574	32,449	18,240
jobs	26,641	46,941	24,918	40,118	51,918	24,918	51,918	29,184
jobs/hh	9.5	11.9	3.4	3.1	2.8	1.6	1.6	1.6
GFA jobs/GFA hh	3.1	3.9	1.1	1.0	0.9	0.5	0.5	0.5
New totals								
Avg FAR	0.61	0.72	0.66	0.81	0.93	0.78	1.13	0.83
Commuters	95,245	113,748	86,280	92,840	95,840	73,106	73,106	73,106
Rental income	1,649	1,944	1,734	2,065	2,352	1,932	3,113	2,766

Exhibit 2: Jobs and Households under Balance Development

Arlington allowed higher FAR values for residential than for commercial. See also Note 1.

to the roadways because there will be, theoretically, no new commuters[1]. In evaluating this strategy, we examined three cases: (1) Development to meet the GMU 2030 jobs demand but building more residences than the GMU 2030 residential demand, (2) Development to meet the GMU 2050 jobs demand but building more residences than the GMU 2050 residential demand, and (3) Development to meet the GMU 2050 residential demand but building fewer commercial buildings so that the GMU 2050 jobs demand is not met. Data for these three cases is listed, respectively, in the last three columns of Exhibit 2. Notice that the rental incomes for all three cases exceed the by-right rental incomes; therefore, all three cases are attractive to developers. Notice also that, for all three cases, the average FAR (GFA divided by the total land area) is greater than for by-right development.

The development plan with the least risk is the last case (last column in Exhibit 1). The residential demand is met but the commercial demand is not. The other two cases involve more risk because the number of households exceeds the forecasted demand.

To reduce the risks of speculating on commercial and residential development, the developer can and should build residential and commercial buildings simultaneously, at the rate of 1.6 jobs per household. Because the profit per square foot is higher for commercial than for residential units, the developer should be given the added incentive to build, if not simultaneously, the residential prior to the residential.

Developers will surely want to maximize rental income; therefore, they will favor the GMU 2050 plan. If the GMU 2050 demand is exactly met, with its greater number of jobs than the households can support, the transportation systems must be enhanced with wider roads, many buses, and many bicycle paths so the 31% increase in commuters can be accommodated. If the developers pay for the enhanced infrastructure, there should be no major objections to following the GMU 2050 forecast – other than the fact that the economic system will be less efficient because of the lost time in commuting and the added expense of commuting and parking.

Our proposed balanced development is practical. Arlington County has demonstrated nearly balanced development along the Rosslyn-Ballston corridor for the past 20 years, albeit with a ratio of 2.5 jobs per household. This Arlington County development has been heralded as a great success story.

MWCOG recently issued its Round 8.0 Cooperative Forecast. This forecast shows approximately the same number of households in 2040 as the GMU 2040 forecast (Exhibit). The MWCOG forecast does not extend to 2050. It lists only 66,000 jobs in 2010, as compared to 81,000 in its Round 7.1 and 72,000 in its Round 7.2. GMU has 82,000 jobs in the corridor in 2010. MWCOG now forecasts only 89,000 jobs in 2040, as compared to GMU's forecast of 122,000. MWCOG's new estimates highlight the risks associated with developing to meet the commercial forecasts rather than the residential, thereby providing an argument in favor of the plan associated with the last column in Exhibit 2; namely, meeting the residential demand while maintaining the 1.6 ratio.

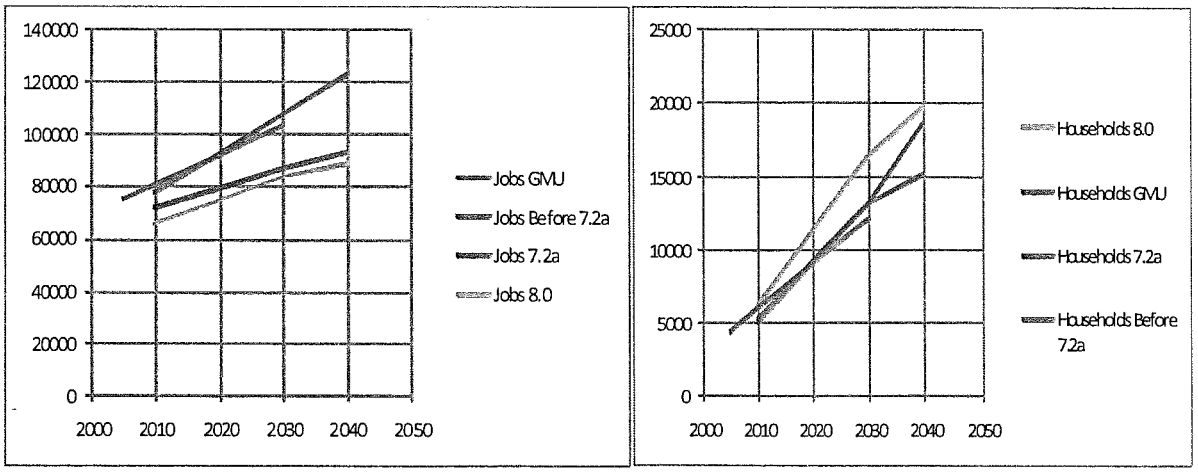

Exhibit 3: Recent Growth Projections